The following presentation is for informational purposes only! Technical interpretation of the DOT Code of Federal Regulations is your responsibility.
Why test pressure relief devices?

SAFETY
(c) Periodic test and inspection. Each specification cargo tank must be tested and inspected as specified in the following table by an inspector meeting the qualifications in § 180.409. The retest date shall be determined from the specified interval identified in the following table from the most recent inspection or the CTMV certification date.
Memorandum

Federal Motor Carrier Safety Administration

Subject: SAFETY NOTICE ON BENCH TESTING OF PRESSURE RELIEF DEVICES (PRDs)

From: Federal Motor Carrier Safety Administration

To: All Cargo Tank Manufacturing, Testing, and Repair Facilities

Recent investigations conducted by the U.S. Department of Transportation, Federal Motor Carrier Safety Administration (FMCSA) on USDOT specification cargo tank testing and repair facilities have resulted in a consistent pattern of non-compliance regarding bench testing of Pressure Relief Devices (PRDs). Specifically, cargo tank testing and repair facilities are either failing to bench test PRDs or failing to test them appropriately by not determining the proper start-to-discharge and closing pressures.

Due to the extent of this problem, FMCSA is issuing this Safety Notice to increase awareness of the regulatory requirements for PRDs.

Pursuant to 49 CFR Section 180.407(g)(1)(ii), ALL self-closing pressure relief valves, including emergency relief vents and normal vents, MUST be removed from the cargo tank for inspection and testing prior to the pressure test being conducted. In addition, per Section 180.407(d)(3), ALL reclosing pressure relief valves on cargo tanks transporting laden corrosive to the valve must be removed annually for inspection and testing during the external visual inspection.

Section 180.417(b)(2)(iii) requires test report forms to include information about pressure relief vents that are removed, inspected and tested or replaced, including the type of device, set-to-discharge pressure, pressure at which device opened, pressure at which device reset, and a statement of disposition of the device (e.g., reinstalled, repaired, or replaced).

The PRDs are an integral part of the safety mechanisms for specification cargo tanks and are vital to ensuring highway safety of hazardous materials. Failing to properly conduct bench testing of a hazardous materials cargo tank during the pressure test is not only a safety hazard, but is a violation of the Federal Hazardous Materials Regulations (HMR). A specification cargo tank that has had a pressure test where the pressure relief devices have NOT been tested as prescribed is NOT authorized for the transportation of hazardous materials.

Registered inspectors who have not bench tested the PRDs during a pressure test should NOT sign the report form indicating the cargo tank is qualified and meets the requirements of the DOT.
Registered Inspectors are also required to ensure that the PRD is correct for the cargo tank in which it is placed, and for ensuring that the venting capacity is sufficient for the cargo tank.

Cargo tank testing facilities are responsible for ensuring their Registered Inspectors (RI) are trained and qualified to conduct bench testing of PRDs. This safety notice should be included as part of the HM training requirements specified in 49 CFR Section 172.700 of the FHMR.

If you have any questions regarding this safety notice, please contact the FMCSA Hazardous Materials Division at 202-385-2400.
1. Who does the test
2. What & How to test
3. Conducting the Test
4. Verify the PRD
5. Forms

For more information, use TMA TB No. 126
Bench Testing Reclosing Pressure Relief Devices
1. Who does the test?

REGISTERED INSPECTOR
or
DESIGN CERTIFYING ENGINEER
Definition and Qualifications of Registered Inspector

Registered Inspector means a person registered with the Department in accordance with subpart F of part 107 of this chapter who has the knowledge and ability to determine whether a cargo tank conforms to the applicable DOT specification. A Registered Inspector meets the knowledge and ability requirements of this section by meeting any one of the following requirements:

(1) Has an engineering degree and one year of work experience relating to the testing and inspection of cargo tanks;
(2) Has an associate degree in engineering and two years of work experience relating to the testing and inspection of cargo tanks;
(3) Has a high school diploma (or General Equivalency Diploma) and three years of work experience relating to the testing and inspection of cargo tanks; or
(4) Has at least three years' experience performing the duties of a Registered Inspector prior to September 1, 1991.
§ 180.409 Minimum qualifications for inspectors and testers.

(a) Except as otherwise provided in this section, any person performing or witnessing the inspections and tests specified in § 180.407(c) must—

1. Be registered with the Federal Motor Carrier Safety Administration in accordance with part 107, subpart F of this chapter,

2. Be familiar with DOT-specification cargo tanks and trained and experienced in use of the inspection and testing equipment needed, and

3. Have the training and experience required to meet the definition of “Registered Inspector” in § 171.8 of this chapter.
THESE ARE NOT REGISTERED INSPECTORS:
Girard Equipment Inc. trained and certified Registered Inspector
NICE GUY
But not a registered inspector
2. What & How to test
2. What & How to test

Reclosing Pressure Relief Device
(3) All reclosing pressure relief valves must be externally inspected for any corrosion or damage which might prevent safe operation. All reclosing pressure relief valves on cargo tanks carrying lading corrosive to the valve must be removed from the cargo tank for inspection and testing...
Remove the PRD and visually inspect for corrosion
VISUAL INSPECTION FOR SAFE OPERATION
3. Conducting the bench test.
WOULD YOU TEST YOUR PRESSURE VENT HERE?
...Each reclosing pressure relief valve is required to be removed and tested must open at no less than the required set pressure and no more than 110 percent of the required set pressure, and must reseat to a leak-tight condition at no less than 90 percent of the start-to-discharge pressure or the pressure prescribed for the applicable cargo tank specification.
(A) Each self-closing pressure relief valve that is an emergency relief vent must open at no less than the required set pressure and no more than 110 percent of the required set pressure, and must reseat to a leak-tight condition at no less than 90 percent of the start-to-discharge pressure or the pressure prescribed for the applicable cargo tank specification.
1. Clean Air Supply
2. Regulator to adjust air pressure
3. Digital Pressure Gauge, NIST traceable.
4. Gate valve, to open and close air supply
5. Fixture to hold PRD
7.0 Testing method.
7.1 Mount the reclosing pressure relief valve.

Please visit TTMA website for Technical Bulletin 126
http://www.ttmanet.org
1. Venting Capacity in Sq.Ft. of PRD is = or > the Cargo Tank.
2. MAWP of PRD matches the Cargo Tank
3. Set Pressure of PRD matches the Cargo Tank
4. Connection size (3” or 4”) of the Cargo Tank matches the PRD. (not required, but suggest that RI looks at this too!)
(iii) Listing of all items tested or inspected, including information about pressure relief devices that are removed, inspected and tested or replaced, when applicable (type of device, set to discharge pressure, pressure at which device opened, pressure at which device re-seated, and a statement of disposition of the device (e.g., reinstalled, repaired, or replaced));
**Type of device**

Pressure

**Statement of disposition**

Set to discharge pressure

**Registered Inspector**

Pressure PRD reseated

Pressure PRD opened
Question and Answer

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